

## STATISTICAL PERSONALIZED RECOMMENDATION SYSTEM

### Abstract

A method for recommending items in a domain to users, either individually or in groups, makes use of users' characteristics, their carefully elicited preferences, and a history of their ratings of the items are maintained in a database. Users are assigned to cohorts that are constructed such that significant between-cohort differences emerge in the distribution of preferences. Cohort-specific parameters and their precisions are computed using the database, which enable calculation of a risk-adjusted rating for any of the items by a typical non-specific user belonging to the cohort. Personalized modifications of the cohort parameters for individual users are computed using the individual-specific history of ratings and stated preferences. These personalized parameters enable calculation of a individual-specific risk-adjusted rating of any of the items relevant to the user. The method is also applicable to recommending items suitable to groups of joint users such a group of friends or a family. A related method can be used to discover users who share similar preferences. Similar users to a given user are identified based on the closeness of the statistically computed personal-preference parameters.